

**Russo-Ukrainian War**  
**Part 4**  
**Battle for Kherson**

MG(Ret) John S. Harrel  
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Introduction

As this Article was being completed, the Ukrainian Army commenced its ground counter-offensive. Numerous important events have recently occurred but since the Kherson ground offensive is currently unfolding, this article will focus on the Battel for Kherson Oblast.

**Battle for Kherson**

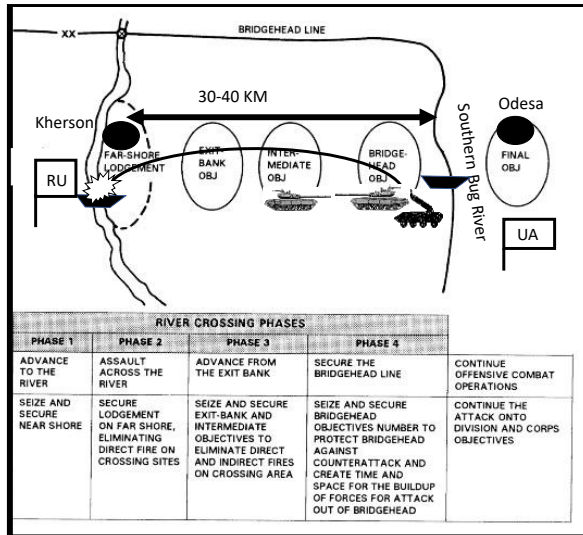
Offensive operations aim at destroying or defeating an enemy. A commander may conduct an operation to deprive the enemy of resources, seize decisive terrain, divert the enemy attention, develop intelligence, or hold an enemy in position.<sup>1</sup> Effective offensive operations capitalize on accurate intelligence regarding enemy forces, weather, and terrain.

An offensive is divided into phases: shape, deter, dominate, and seizure of objectives. The attacker shapes the battlefield for success by maneuvering forces to advantageous positions before launching a decisive ground attack while using fire to attrite, fix, and isolate the enemy. Security operations keep or inhibit the enemy from acquiring

information about friendly forces. Contact with enemy forces before decisive operations is deliberate and designed to shape the optimum situation for success.<sup>2</sup> The shaping operation for the liberation of Kherson Oblast began in June 2022 and the ground attacks that started on August 29, 2022 are a continuation of the shaping operation to seize decisive terrain in the Kherson Oblast.



The massing of Russian strength against the Donbas in June-July 2022 resulted in weakening of the Kherson sector at the extreme end of Russia's supply lines. Russia's failure to establish a bridgehead line 32km/20miles west of the Dnipro River placed the Russian defenders in a precarious position.



In the early months of the war, Russia luckily captured the bridges over the Dnipro River but failed to capture the bridges over the Southern Bug River. The Ukrainian defenders forced the Russians back from the Southern Bug River where the BTGs established their defense in open farmland and steppes west of Kherson. The eastern bank of the Southern Bug River is a terrain feature 30-40km/18-24 miles from the Dnipro River, and a natural Bridgehead Line. If the Russians had defended along the Southern Bug River, Ukrainian artillery and especially western supplied HIMARS rockets, could not have easily targeted the bridges over the Dnipro River.

The geography between Mykolaiv on the Southern Bug River, and Kherson on the Dnipro River is 32km/20 miles (at the shortest point) of open rolling steppes. In theory this is perfect defensive terrain for the

Russians, with the villages and road junctions already developed into strong points with interlocking fields of fire from defending ATGMs, tanks and artillery. Approximately 20 BGTs currently occupy the defenses west of the Dnipro River. To support their Donbas offensive, Russia initially weakened the Kherson defenders by replacing destroyed T-72 tanks with obsolete T-62 tanks. Their main supply route (MSR) is over three bridges crossing the Dnipro River.

This Russian defensive deployment contains several obvious operational errors, which has provided Ukraine with the opportunity for a limited summer counter-offensive in the Kherson sector. Shaping operations for this counter-offensive began in June 2022, when modern western artillery became available in quantity. In the past few weeks Ukraine has successfully targeted Russian artillery ammunition depots in the region. While the HIMARS rocket artillery has received credit for these successful attacks, various missile systems were also utilized. The ammunition provided to Ukraine allows HIMARS to strike targets from a 80km/50mile range. Ukrainian missiles, drones, commandos, and partisans have been credited for striking deeper targets in the Crimean Peninsula.<sup>3</sup> Ukrainian commandos, partisans and/or missiles have successfully destroyed or heavily damaged Saki Airbase and a massive

military depot at Mayskoye in Russian occupied Crimea.<sup>4</sup> On August 17, 2022, Ukrainian artillery was responsible for destroying an ammunition dump and five ‘Legenda-2’ satellite base stations in Blahodatine. By destroying the base stations, it is more difficult for the Russians to coordinate artillery, missile, and air strikes on Ukrainian positions.<sup>5</sup> To date the Ukrainian attacks have been credited with destroying 50 ammunition dumps along with command-and-control infrastructure.<sup>6</sup>

For weeks Ukraine’s shaping operations have telegraphed to the world that it is preparing to launch a counter-offensive to liberate Kherson Oblast and push the Russians back to the east bank on the Dnipro River, which would threaten their supply lines from Crimea. For obvious reasons Ukraine is not rushing to failure. The threatened operational counter-offensive has the strategic objective of forcing Russia to weaken the Donbas assault force.

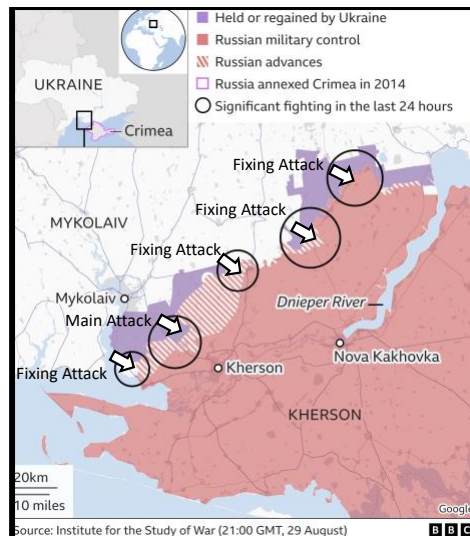
Thirty-six BTGs from the 5<sup>th</sup>, 29<sup>th</sup>, 35<sup>th</sup> and 36<sup>th</sup> CAA have been redeployed south from the Donbas. Twenty-seven BTGs are reinforcing the Kherson sector. However moving the 27 combat battalions into the Kherson Beachhead increases the 49<sup>th</sup> CAAs supply problems without increasing its combat capability to attack and push the Ukrainians back to the Bridgehead Line. In the defense, the additional 27 battalions in the

pocket west of the river, would slow a Ukrainian attack, but would not significantly change the combat ratio. The Ukrainian counter-attack will be an artillery assault with tank and infantry battalions taking advantage of the effects of fire. The Russian defenders will be fighting with limited ammunition due to cut supply lines.



As Ukrainian fires continue to shape the battlefield, Ukraine has launched ground attacks to secure key terrain. The projected Ukrainian ground operational objectives include Kherson City, the Antonivsky Bridges and the Kakovska power plant dam and bridge. It should be no surprise that the ground attacks starting on August 29, 2022, focused on securing key terrain on the axis toward these objectives. In addition, fixing attacks are being conducted along the line, to pin Russian defenders denying them the ability to shift local reserves. With the

bridges over the Dnipro River damaged or destroyed, the tank and infantry reinforcements from the Donbas are helpless to intervene. With local ammunition dumps destroyed, the reinforcing artillery impact on the battle is greatly reduced.



As shaping operations continue into September, logistics will force the Russians to either attempt to reinforce their beachhead defense or start withdrawing tank and infantry battalions to the east bank of the Dnipro River. The Ukrainian ground shaping operations will secure forward firing positions for its artillery batteries slowly pushing the Russians into the river. Russian defenders northwest of Nova Kakhovka Dam are in danger of being fixed and isolated in a pocket with their retreat blocked by the Kakhovka Reservoir.

If Russian morale collapses and they withdraw Ukrainian ground operations will easily liberate city of Kherson. Otherwise, it will be a slow and deliberate advance. Eventually the lack of supplies, partisan activity, and artillery assaults will force the Russians to abandon the west bank of the river. By taking the indirect approach, the Ukrainians should take the city without a prolonged urban fight.

### **Kherson Annexation and Nuclear War**

Putin's military has been in a grinding war of attrition for the past five months and only recently in the Donbas has been successful at the expense of massive casualties and expenditure of weapons and material. Putin is now faced with a Ukrainian counter-attack while his main forces are decisively engaged in the Donbas. Due to the threat in Kherson, as of August 29, 2022, Putin has been forced to shift between 30-40 BGTs to the southern sectors.<sup>7</sup> In desperation Putin is pushing ahead with his attempt to annex Kherson Oblast before he losses it.

It has been reported that to launch a strategic nuclear strike at least two of three people, Putin, Defense Minister Shoigu and Chief of the General Staff Gerasimov, would have to agree on the attack. Each carries a nuclear command briefcase. The failure of the Russian blitzkrieg and the rapid response of NATO caught Russian leadership by surprise.



Putin's rattling of the nuclear saber pushed neutral Sweden and Finland into joining NATO. The unanswered question is whether this triumvirate will agree that these setbacks justify the use of tactical nuclear weapons.

The saber rattling to this point has had very limited success, but it did save Putin from a 'no-fly zone' being established over Ukraine and long range HIMARS 300km/180 mile rockets from being provided to Kyiv.<sup>8</sup> Despite its defeats on the battlefield, Russian leadership still grasps that use of tactical nuclear weapons would produce a situation that could quickly escalate out of control. The threat of nuclear war does not mean Putin will not push close to a nuclear confrontation with the hope that during the following negotiations Russia could hold on to occupied Ukrainian territory.

If Russia annexes Kherson Oblast, Putin could use tactical nuclear weapons to protect 'Russian Territory.' He could use a tactical nuclear weapon to hit an empty forest to force Kyiv to recognize his 'right of conquest.' If that coercion failed, his next step could be a strike on an army base or tank battalion.<sup>9</sup>

However, use of tactical nuclear weapons would force a NATO response. The NATO options could be conventional weapons only, the destruction of the Black Sea Fleet or establishment of a 'No-Fly Zone'

over Ukraine. In the case of the US, President Biden is under no obligation to use nuclear weapons in defense of a non-NATO country. There is a disagreement among experts on whether Biden would retaliate after a single use of a tactical nuclear weapon. It is probable that Biden would authorize conventional missile attacks against the unit that launched the attack.<sup>10</sup>

The potential annexation of occupied Kherson Oblast becomes a critical issue. The Ukrainian counter-offensive is slowly approaching the city of Kherson. The bridges over the Dnipro River have been targeted and rendered unusable for a long period of time, threatening to isolate the 49<sup>th</sup> CAA on the west bank of the river. Partisan activity in the oblast and city has increased. The bulk of Kherson residents refuse to cooperate with the occupation authority. With the possibility of losing the city within the next four weeks it would be embarrassing for Russia to annex the city now.

If Putin does annex Kherson Oblast it would become part of Russian territory. While the world would consider this action a violation of international law, Putin would proclaim and celebrate the liberation of the oblast; an illusory victory for Putin's propaganda machine if he cannot capture and hold the city.

## **What Does \$40 billion in Aide to Ukraine Buy?<sup>11</sup>**

Much like Russia would not have survived the Nazi invasion without the US Lend Lease Act during the Second World War, Ukraine could not have survived without aid from NATO and the West. It certainly, would not be in position to conduct a counter-offensive to liberate Kherson Oblast. While there is a lot of media coverage about the \$40 billion US aid bill, there are few detailed summaries about what is included in the bill.

First as the bill implies, \$19 billion is for immediate military support for Ukraine, however, the lion's share of the bill covers related economic and humanitarian aid.<sup>12</sup>



Nearly \$3.9 billion has been allotted to sustained additional US forces being deployed to Europe. The US V Corps' Forward Command Post has deployed from the United States to Poland. Additional American combat and support units, along with NATO forces, have forward deployed along a front from the Baltic to Black Seas. In addition to the \$3.9 billion, NATO countries are committing additional funds to support the forward deployment.<sup>13</sup>

There is \$16 billion for economic support for Ukraine, global humanitarian relief and related programs. While some elements of the aid package will be available within the next few months, others are long term and will take years to implement.<sup>14</sup>

The replacement of US weapons stocks will cost \$9 billion, to replace the actual \$3.3 billion for weapons provided to Ukraine. Yes, we are providing the oldest version of US weapons to Ukraine while replacing them with upgraded state of the art weapons and equipment.<sup>15</sup>

The US reinforced NATO with 10,500 troops in Europe. While these troops will serve a year and rotate out, I predict V Corps will be permanently station in Poland along with additional US combat brigades and support units. As former Warsaw Pact NATO members shift their Soviet era weapons and munitions to Ukraine, NATO standard equipment and munitions will replace the depleted weapons. Most of this cost of rearmament falls on the receiving country. The replacement of Soviet era equipment with modern NATO weapons will enable Poland and other former Warsaw Pact countries to integrate into the defense of Eastern Europe.

The \$16 billion for economic and global humanitarian relief covers refugee assistance to Eastern Europe dealing with the mass of Ukrainian refugees. This sum includes disaster relief for Ukraine and regions impacted by the loss of Ukrainian grain shipments. The bill spreads expenditures through FY 2022 to FY2031. The first \$5 billion

will be spent in FY 2022 and 2023. Between FY 2024 and FY 2031 the remaining \$11 billion will be spent.<sup>16</sup>

NATO members are revamping their militaries and increasing their spending, but Poland is leading the rearmament by modernizing its tank fleet. With the shift of Poland's T-72 tank fleet to Ukraine, its government has purchased 250 M1A2SEPV3 Abrams tanks for \$1.1 billion and 980 South Korean K2 tanks for \$14 billion. The American purchase includes 26 M88A2 Hercules armored recovery vehicles, 17 M1110 joint assault bridges, training simulators, technical support and paying 74 US government and civilian contractors to train crews over the next five years.<sup>17</sup>



Poland is purchasing 980 K2 Black Panther tanks, 645 K-9 Krab self-propelled howitzers and 48 FA-50 light fighter aircraft. Under license

Poland will manufacture 800 tanks in country under the name ‘Wilk’ (Wolf). The K2 tank carries the same 120mm gun as the Abrams but with an autoloader that reduces the crew to three. It has a Korean active protective system designed to intercept rockets and anti-tank missiles. With the Cold War T-72 replacement program Poland will field 1,280 of the most modern tanks and establish its tank fleet as the largest and most modern in NATO. By 2030, Poland will field more modern tanks than United Kingdom, Germany, France, Netherlands, Belgium and Italy combined. Russia had only 2,800 older tanks in active service in February 2022 and probably 5,000 tanks in storage that, over weeks and months could be used to replace 989 of its best tanks lost in battle. The United States tank fleet numbers 6,333, only half of which are in service while China is estimated to maintain a fleet of 5,800.<sup>18</sup>

### **Russia Logistical Problems and the Long War**

As we enter phase III (August 2022 on) of the war, the Russians still have a large superiority in men, equipment, and munitions, but not at the front. The manpower is not fully mobilized, and the replacement

depots are providing partially trained replacements for depleted battalions. Russian heavy losses in company and battalion grade officers cannot be replaced overnight. It takes time to replace these fully trained professional leaders and this shortage will reduce the combat capabilities of Russian tank and infantry battalions. Finally, Russia is not a nation of ‘White Russians’, but rather an eclectic collection of ethnic groups and races ruled by White Russians. Russian propaganda indicates that its people are behind the war effort, but these claims cannot be substantiated by independent reporters.

The World’s initial impression of overwhelming Russian superiority in equipment is an illusion. The Russians do have large numbers of obsolete tanks being overhauled to replace losses. However, as the Ukrainian mechanics discovered, Russia sent its first line crews into battle in obsolete tanks that were not fully operational. The replacement of destroyed T-72s with more modern T-80 and 90 tanks is impossible as they are not in storage somewhere waiting to be deployed and production of new tanks is greatly limited.<sup>19</sup> Rebuilt and newly mobilized battalions will not be as capable as the initial invasion force.

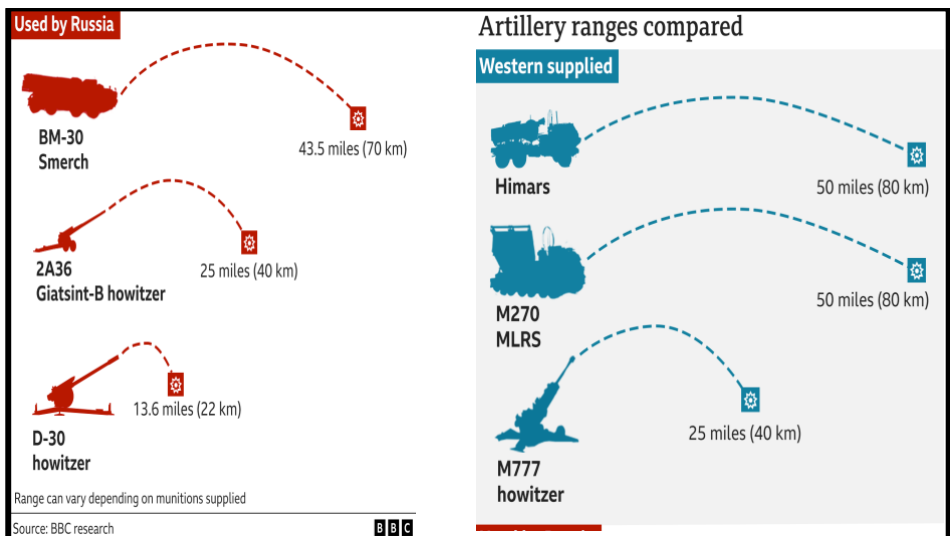
Russia’s true Achilles Heel remains logistics. Getting beans, bullets, and fuel to the front is becoming problematic. With an economy



the size of Italy, the only thing Russia has going for it is its massive Soviet Cold War stockpile of standard artillery and mortar ammunition.<sup>20</sup>

The Russian howitzer munition stockpile is estimated to be 5 million shells, but recent consumption far exceeds Russian yearly production.<sup>21</sup>

Russia has fired between 1,100 and 2,100 cruise and theater ballistic missiles to date out of a stockpile estimated to be 4,000. In three months, Russia has burned through four times the US annual missile production for similar missiles. The Russian production rates of these missiles is significantly smaller than America's.



A critical issue for Putin's artillery war of attrition is the size of his munitions stockpile. Focusing on howitzer ammunition only, at the end of the Cold War it was estimated the Soviet Union and the Warsaw

Pact stocked 75-100 million howitzer shells of various calibers. Thirty years later it is estimated that Russia's stockpile has been reduced to 5 million, similar to the US stockpile. Over the past thirty years, Russia lacking funds to maintain the Soviet stockpile, has reduced its stock by destroying degraded munitions due to improper storage.

Since the beginning of the war on February 24, 2022, to the present (August 30, 2022), it has been estimated that Russia has fired over 1.6 million howitzer shells. At best by switching his munitions factories to war production, Russian will only be able to produce 100,000 replacement howitzer shells a year. This production rate is similar to the US peacetime yearly production of 100,000 shells per annum. Each round cost about \$850, with precision shells costing as much as \$2,700. While Russia does have a superiority in munitions over Ukraine, Putin is reducing his conventional munitions stockpile to dangerous levels.<sup>22</sup> Russia still needs to maintain a sufficient reserve of conventional artillery munitions in case of a NATO intervention. Having this massive stockpile of shells is one thing, getting them to the firing batteries is another.

Russia relies on rail to get its needed munitions to the war zone, resulting in massive ammunition depots at the railheads in or near the frontlines. From these depots trucks must transport the ammunition to the

firing batteries. The massive depots were perfect targets for Ukrainian HIMARS rocket artillery. Throughout the war zone the long-range rockets of the HIMARS, western supplied missiles and commando raids have destroyed to date 50 large ammunition depots forcing the Russians to disperse these high value targets with trucks.

The Russian Army had a shortage of trucks when it invaded Ukraine in February 2022.<sup>23</sup> To date, Russia has lost 3,000 irreplaceable supply and fuel trucks making getting ammunition to the Russian firing batteries and dispersing the ammunition depots problematic. While moving this ammunition the Russian truck convoys need to cross partisan controlled areas which will result in a further loss of trucks.<sup>24</sup>



## Conclusion

Kherson Oblast is at the very end of the Russian supply lines. The MSR from Russian territory passes dangerously close to the frontlines in the Zaporizhia Sector and through the rail and road junction of Melitopol, a hotbed of partisan activity. The Russian ability to defeat the Ukrainian counter-offensive will depend on its ability to supply its troops at the end of overextended supply lines. Oddly enough Putin's success or failure will ultimately depend upon trucks not tanks, and artillery.

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<sup>1</sup> FM 3-0

<sup>2</sup> FM 3-0

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<sup>3</sup> <https://www.theguardian.com/world/2022/aug/21/ukraine-strikes-psychological-blows-game-of-drones-crimea>, <https://theconversation.com/crimea-ukraine-uses-new-tactics-to-attempt-to-take-back-strategic-territory-from-russia-188951>, <https://www.understandingwar.org/backgrounder/russian-offensive-campaign-assessment-august-18>

<sup>4</sup> <https://www.voanews.com/a/large-scale-explosions-rock-russian-ammo-depot-in-crimea-/6703567.html>

<sup>5</sup> <https://www.19fortyfive.com/2022/08/putin-is-angry-ukraine-destroys-russian-satellite-system-and-ammo-depot/>

<sup>6</sup> <https://www.reuters.com/world/europe/ukraine-says-it-has-destroyed-50-ammunition-depots-using-himars-war-with-russia-2022-07-25/>.

<https://www.newsweek.com/russia-destroyed-himars-ammunition-strike-ukraine-donetsk-konashenkov-1733430>, <https://kyivindependent.com/national/1234>

<sup>7</sup> JominW, Kerson-Odessa Operational Direction: 01-14 August 2022.

<sup>8</sup> <https://warontherocks.com/2022/03/understanding-putins-nuclear-decision-making/>, <https://www.politico.eu/article/putins-nuclear-option/>

<sup>9</sup> <https://www.politico.eu/article/putins-nuclear-option/>

<sup>10</sup> <https://www.nbcnews.com/politics/national-security/will-biden-putin-goes-nuclear-experts-say-nuclear-response-unlikely-no-rcna32756>

<sup>11</sup> <https://www.csis.org/analysis/what-does-40-billion-aid-ukraine-buy>

<sup>12</sup> As of August 12, 2022 support for Ukrainian from the Free World.

<https://www.forumarmstrade.org/ukrainearms.html>

**Australia:** M113 armored personnel carriers, Bushmaster protected mobility vehicles, missiles, and weapons - AUD \$285 million (\$200 million), six M77 155mm howitzers, four 14 M113AS4 Armored Personnel Carriers; drones and 34 armored vehicles (valued \$68 million)

**Belgium:** 200 anti-tank weapons and 5,000 automatic rifles/machine guns

**Canada:** 8 armored vehicles, M777 howitzers, 4500 M72 rocket launchers and up to 7500 hand grenades, 20,000 155mm artillery shells, as well as \$1 million dollars for the purchase of commercial satellite high resolution and modern imagery, machine guns, pistols, carbines, 1.5 million rounds of ammunition, sniper rifles, and various related equipment (\$7.8 million), plus additional \$20 million in military aid (CAD \$25 million - details undisclosed)-- CAD \$118 million total (as of April 22) -- and an additional CAD \$500 million on May 8 (undefined), 39 armored combat support vehicles (ACSVs)

**Croatia:** rifles and machine guns, protective equipment valued at 124 million kuna (€16.5 million)

**Czech Republic:** T-72 tanks and infantry fighting vehicles; attack helicopters (Mi-24); rocket systems; 400 million koruna (\$18.23 million) of non-light weapons, including 160 shoulder-fired MANPADS systems (probably 9K32 Strela-2), 20 light machine guns, 132 assault rifles, 70 submachine guns, 108,000 bullets, 1,000 tactical gloves, all worth 17 million crowns (\$756,000), and an earlier 188 million koruna (\$8.6 million) worth of 4,000 mortars, 30,000 pistols, 7,000 assault rifles, 3,000 machine guns, a number of sniper rifles, and one million bullets.

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**Denmark:** Harpoon anti-ship launcher and missiles, 2,700 anti-tank weapons, 300 Stinger missiles (returned to United States to be made operational), protective vests

**Estonia:** Javelin anti-tank missiles; nine howitzers (with German permission)

**European Union:** €2 billion for military supplies, €500 million in military aid

**Finland:** 2,500 assault rifles and 150,000 cartridges for them, 1,500 single-shot anti-tank weapons, and combat ration packages

**France:** MILAN anti-tank guided missile systems and CAESAR artillery howitzers, plus “additional defense equipment,” 6 CAESAR howitzers (June)

**Germany:** 50 Cheetah anti-aircraft systems, 56 PbV-501 IFVs, 1,000 anti-tank weapons and 500 Stinger anti-aircraft defense system, plus permission for select other countries to send weapons controlled by Germany, three M270 Mittleres Artillerie Raketen System (MARS) launchers and GMLRS ammunition, 100 Leopard I tanks, 16 Biber bridge-layer tanks. Full list see <https://www.bundesregierung.de/breg-de/themen/krieg-in-der-ukraine/lieferung-ukraine-2054514>.

**Greece:** portable rocket launchers, ammunition, and Kalashnikov rifles

**Ireland:** 200 units of body armor, medical supplies, fuel, and other non-lethal aid

**Italy:** Cabinet approved transfer of military equipment, pending Parliamentary approval.- reported to include Stinger surface-to-air missiles, anti-tank weapons, heavy machine guns, MG-type light machine guns and counter-IED systems

**Japan:** bulletproof vests, helmets, and other non-lethal military aid

**Latvia:** scheduled to deliver Stinger anti-aircraft missiles

**Lithuania:** Stinger anti-aircraft missile systems and ammunition, M113 and M577 armored personnel carriers and ammunition

**Luxembourg:** 100 NLAW (Next Generation Light Anti-Tank Weapon), Jeep Wrangler 4x4 vehicles, 15 military tents, and additional non-lethal equipment

**Netherlands:** 200 Stinger missiles, 3000 combat helmets and 2000 fragmentation vests with accompanying armor plates, one hundred sniper rifles with 30,000 pieces of ammunition, plus other equipment; 400 rocket-propelled grenade launchers (with German permission), heavy weapons, self-propelled howitzers, armoured vehicles

**North Macedonia:** unspecified military equipment, unspecified number of soviet-era tanks

**Norway:** 100 Mistral air defense missiles, 4,000 anti-tank weapons, helmets, bulletproof vests, other protection equipment, 22 M109 155m tracked self-propelled howitzers and related materials, three MLRS long-range rocket artillery (joint donation with UK)

**Poland:** 200+ T-72 tanks, other approved delivery of Piorun (Thunderbolt) short-range, man-portable air defense (MANPAD) systems and munition; Defense Minister expressed readiness to supply several dozen thousand rounds of ammunition and artillery ammunition, air defense systems, light

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mortars, and reconnaissance drones, three Krab 155m self-propelled howitzer squadrons (worth \$700M)

**Portugal:** grenades and ammunition, G3 automatic rifles, and other non-lethal equipment

**Romania:** €3 million of fuel, bulletproof vests, helmets, ammunition, military equipment, and medical treatment

**Slovakia:** S-300 air defense system, eight self-propelled Zuzana 2 howitzers.

**Slovenia:** T-72 tanks (reported), undisclosed amount of Kalashnikov rifles, helmets, and ammunition

**Spain:** 1,370 anti-tank grenade launchers, 700,000 rifle and machine-gun rounds, and light machine guns, 20 tons of medical supplies, defensive, and personal protective equipment composing of helmets, flak jackets, and NBC (nuclear-biological-chemical) protection waistcoats

**Sweden:** 10,000 AT4 anti-tank weapons, helmets, and body shields; anti-tank weapons and machine guns (valued \$40 million)

**Turkey:** co-production of Bakar Bayraktar TB2 armed drones

**United Kingdom:** anti-aircraft capabilities (Stormer), 10,000 short-range and anti-tank missiles (including NLAWs and Javelins), Saxon armored vehicles, Starstreak air defence systems, loitering munitions, radar, heavy lift drones -- with aid at £200 million, to rise to as high as £500m as of April 25 (note: on April 8, reports indicated aid already at £350 million)-- on May 2, an additional £300 million announced, M270 multiple-launch rocket systems (quantity to be announced), \$1.2 billion (air defense systems and other technologies), three MLRS long-range rocket artillery (joint donation with Norway); 50,000 artillery shells, artillery guns, drones, anti-tank weapons, additional MLRS, precision guided M31A1 missiles

**United States:** Howitzers and artillery rounds; laser-guided rocket systems; Switchblade, Puma, and Counter-Unmanned Aerial systems; up to 580 Phoenix Ghost Tactical Unmanned Aerial Systems; counter-artillery radars; High Mobility Artillery Rocket Systems (HIMARS)- HIMARS ammunition, two Surface-to-air Missile Systems (NASAMS), four counter-artillery radar systems, as well as 155m artillery ammunition (valued \$820 million); \$400 million, four HIMARS, 126 155mm Howitzers, 20 Mi-17 helicopters and more; Stinger and Javelin missiles; anti-armor systems, small arms and various munitions; more than 50 millions rounds of ammunition; body armor; five Mi-17 helicopters; 70 High Mobility Multipurpose Wheeled Vehicles (HMMWVs). four HIMARS (totalling 16 from US as of July 21). Total \$9.8 billion in security aid since the Biden Administration began, as of August 8, 2022. Total \$11.4 billion since 2014. For full list see Factsheet ([August 8](#))

<https://media.defense.gov/2022/Aug/09/2003052810/-1/-1/0/UKRAINE-FACT-SHEET-AUG-8.PDF>

<https://www.forumarmstrade.org/ukrainearms.html>

<sup>13</sup> <https://www.voanews.com/a/nato-summit-what-new-weapons-have-been-pledged-to-ukraine-/6640386.html>, <https://www.reuters.com/world/europe/dozens-missing-after-strike-ukraine-mall-russia-presses-attacks-east-2022-06-29/>

<sup>14</sup> <https://www.csis.org/analysis/what-does-40-billion-aid-ukraine-buy>

